Wnt/beta-catenin signaling acts at multiple developmental stages to promote mammalian cardiogenesis.

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Public Summary:

Scientific Abstract:
Despite decades of progress in cardiovascular biology, heart disease remains the leading cause of death in the developed world. Recently, cell-based therapy has emerged as a promising avenue for future therapeutics. However, the molecular signals that regulate cardiac progenitor cells are not well-understood. Wnt/beta-catenin signaling is essential for expansion and differentiation of cardiac progenitors in mouse embryos and in the embryonic stem cell system. Studies from our laboratory and others highlight the pivotal roles of Wnt/beta-catenin signaling in the multiple steps of cardiogenesis and provide insights into understanding the complex regulation of cardiac progenitors. Here we discuss the required roles of Wnt/beta-catenin signaling at the different stages of heart development.